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Publication date:
2018

[Link to publication from Aalborg University](#)

Citation for published version (APA):

Olesen, A. V., Madsen, T. K. O., & Lahrmann, H. S. (2018). *Underreporting of cyclist and car injuries in Denmark*. Abstract from International Transport Forum Pre-summit Research Day, Leipzig, Germany.

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Abstract for the ITF 2018 Pre-summit Transport Research Day, Leipzig, May 22, 2018

Underreporting of cyclist and car injuries in Denmark

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Background

The number of traffic-related personal injuries is heavily under-reported - when registered by the police. The personal injuries in traffic victims registered in emergency rooms may throw some light into this topic. The under-reporting especially for the vulnerable road users is highly relevant when prioritizing the funds for road improvements between for example cyclists and car users.

Methods

We used Danish public registry data from both the police and emergency rooms/hospitals comprising information at the individual level on party, counterparty, sex and age of the injured person.

Results

Figure 1 depicts some preliminary results of the study on underreporting. During the period from 2008 to 2014, the total number of police registered personal injuries halved from approximately 7,000 to 3,500 whereas the total number of traffic injuries registered in the emergency room was only reduced 15 % from approximately 35,000 to 30,000. Although we saw signs of decrease in the emergency room registration as well (which may suggest cuts in the emergency room budgets) the study pictured a gap of 26,500 injuries in 2014. We further studied the development of two subsets of personal injuries namely car/van injuries and bike injuries. The number of car injuries dropped from 2008 for both police and emergency room to index 40 for police registration and index 70 for emergency room registration. For cyclists the numbers slightly increased to index 110 for the registration in the emergency rooms in the period 2008-2014 and dropped to an index of 80 in the police registration. In 2014, the share of police registered injuries was 44 % and 25 % for car/van and bike respectively while this pattern was different in the emergency room. Here, the car/van constituted a share of 36 % and cyclists 48 %, which was almost half of the personal injuries registered in the emergency room.

Discussion

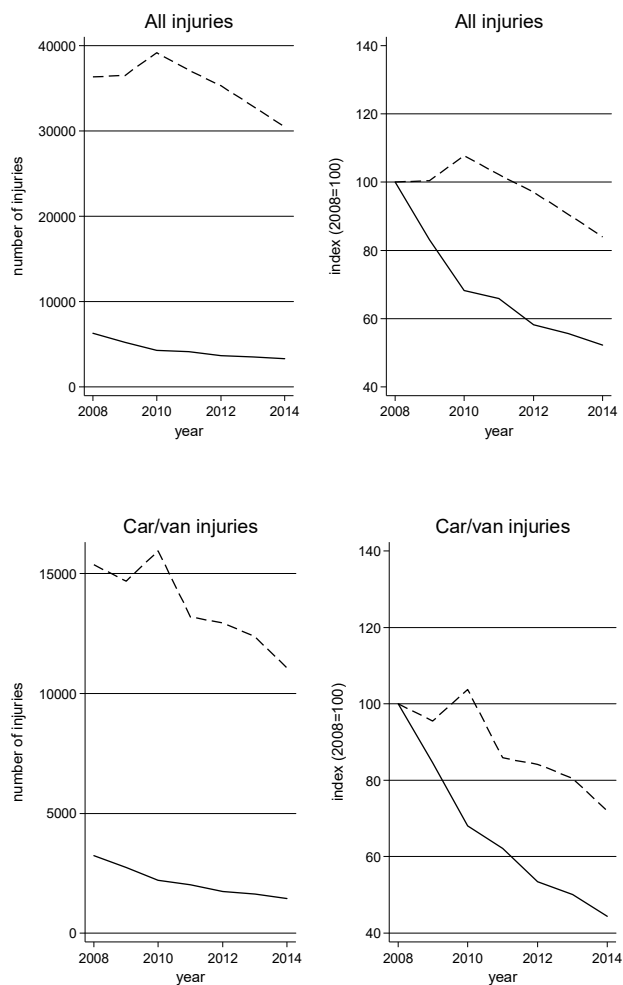
The underreporting of traffic-related personal injuries remains a large problem because the official statistics do not give the underlying true picture of traffic-related injuries. Funds for accident-prevention probably need some redistribution between road users according to this true picture.

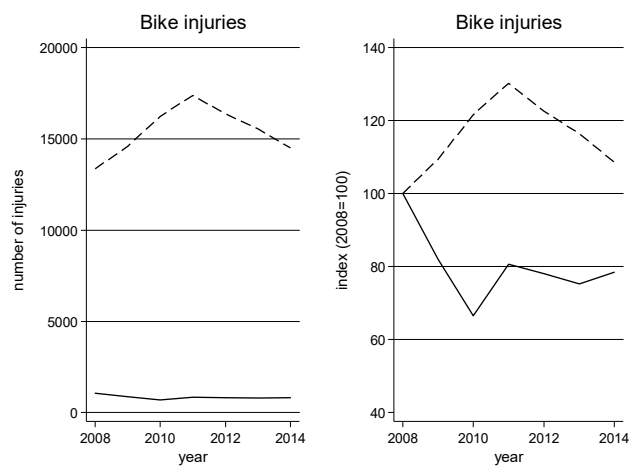
Our preliminary results showed a gap between 3,500 police registered personal injuries in 2014 but as many as 30,000 traffic injuries registered in the emergency rooms in Denmark in 2014. Car injuries constituted the major share of the police registration while the emergency room registered bicyclists with half of the injuries. This underlines the well-known difference in underreporting between the different modes of transport and suggests that we use the emergency room data for identification of the hidden accidents in e.g. cyclists. This study also suggest that the development in the period from 2008 to 2014 differs between the different modes of transport. As an example, the underreporting in cyclists tends to increase from 2008 to 2014 – a tendency that is not apparent from the picture of the police registration of cyclist injuries.

Further studies of individual level data from emergency rooms can help the development of rules of thumbs for a better conversion to a more appropriate estimate of the number of traffic-related personal injuries. The underreporting can give a wrong prioritization of the funds in the accident-prevention work, which we need to acknowledge and be willing to change.

Figure 1

Personal injuries registered by police and emergency room





Legend: Police solid line and emergency room dotted line